

II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for insertion of a tibia fixation member comprising:
gaining supra patella surgical access to an intramedullary canal of a proximal end of a tibia with the patient's leg extended;
moving the fixation member substantially posterior to a patella; and
inserting the fixation member into a proximal end of the intramedullary canal.
2. (Previously Presented) The method of claim 1 further comprising:
providing a protective sheath having a proximal end and a distal end;
positioning the proximal end of the sheath adjacent a femur; and
positioning the distal end of the sheath adjacent the proximal end of the tibia.
3. (Previously Presented) The method of claim 2 wherein the protective sheath defines a proximal opening and a distal opening and a passageway between.
- Duplicate Claim 3. (Canceled)
4. (Previously Presented) The method of claim 3 wherein the fixation member is inserted into the proximal end of the intramedullary canal through the protective sheath.
5. (Previously Presented) The method of claim 3 further comprising utilizing a cutting member guided by the protective sheath to access the intramedullary canal.
6. (Previously Presented) The method of claim 3 wherein the distal end of the protective sheath is tapered to substantially engage a natural shape of the proximal end of the tibia.

7. (Previously Presented) The method of claim 3 wherein the protective sheath provides protrusions adapted to engage an inner surface of the proximal end of the intramedullary canal.

8. (Previously Presented) The method of claim 3 wherein the distal end of the protective sheath features pins for engaging the proximal end of the tibia.

9. (Previously Presented) The method of claim 3 wherein the protective sheath is made of a substantially radiolucent material and has at least one radiopaque marker.

10. (Previously Presented) The method of claim 3 wherein the fixation member has one or more fixation pieces adapted to slide within the protective sheath into the intramedullary canal.

11. (Previously Presented) The method of claim 3 wherein inserting further comprises utilizing a guide wire to guide the fixation member into the intramedullary canal.

12. (Original) The method of claim 11 wherein the fixation member is substantially planar and defines a passage to engage the guide wire.

13. (Previously Presented) The method of claim 11 further comprising utilizing a cutting instrument guided by the guide wire to access the intramedullary canal.

14. (Original) The method of claim 1 wherein the fixation member is substantially planar and has a plurality of apertures configured to accept bone engagement members.

15. (Original) The method of claim 14 further comprising: anchoring the fixation member to the tibia with a plurality of bone engagement members.

16. (Original) The method of claim 15 wherein the plurality of bone engagement members is a set of screws anchored through the apertures into the tibia at non-perpendicular angles to one another and to the fixation member.

17. (Currently Amended) ~~The method of claim 1 further comprising:~~ A method for insertion of a tibia fixation member comprising:

gaining supra patella surgical access to an intramedullary canal of a proximal end of a tibia;

moving the fixation member substantially posterior to a patella;

inserting the fixation member into a proximal end of the intramedullary canal

providing a protective sheath with at least one radiopaque marker;

positioning the protective sheath to define a passage from a supra patella surgical site into ~~an intramedullary~~ the intramedullary canal of a the tibia;

providing a guide wire with at least one radiopaque marker;

passing the guide wire within the passage defined by the protective sheath into the intermedullary canal;

monitoring the position of the protective sheath and guide wire by an image guidance system.

18. (Original) The method of claim 17 wherein the image guidance system comprises an X-ray device.

19. (Previously Presented) A method for insertion of a tibia fixation member comprising:

creating a supra patella surgical access site;

inserting a substantially tubular protective sheath posterior to a patella such that a distal end is adjacent a proximal end of the tibia;
accessing the intramedullary canal of the tibia utilizing a cutting tool guided by the protective sheath;
inserting the fixation member into a proximal end of the intramedullary canal;
and
anchoring the fixation member to the tibia.

20. (Previously Presented) The method of claim 19 further comprising:
providing at least a portion of a guide wire into the intramedullary canal, the guide wire having a radiopaque marker.

21. (Previously Presented) The method of claim 19 wherein the protective sheath is tapered on the distal end to substantially engage the natural curvature of the proximal end of the tibia.

22. (Original) The method of claim 19 wherein the fixation member defines a plurality of apertures for engaging bone engagement members and for engaging an insertion tool.

23. (Original) ~~The method of claim 22~~ A method for insertion of a tibia fixation member comprising:
creating a supra patella surgical access site;
inserting a substantially tubular protective sheath posterior to a patella such that a distal end is adjacent a proximal end of the tibia;
accessing the intramedullary canal of the tibia utilizing a cutting tool guided by the protective sheath;
inserting the fixation member into a proximal end of the intramedullary canal;
and

anchoring the fixation member to the tibia;

wherein the fixation member defines a plurality of apertures for engaging bone engagement members and for engaging an insertion tool;

wherein inserting the fixation member further comprises utilizing an insertion tool with an inner shaft threaded to an outer tube on a proximal end and a gripping member on a distal end, the ~~gripping~~ gripping member configured to releasably engage a proximal end of the fixation member.

24-37. (Canceled)

38. (Currently Amended) A method for percutaneous insertion of a tibia fixation device, the method comprising:

providing a sheath having a proximal portion, a distal portion, and an opening extending therebetween;

creating a percutaneous incision, a majority of the incision being above a patella;

inserting the distal portion of the sheath through the incision to a position adjacent a proximal portion of a tibia; and

inserting a fixation device through the sheath into an intramedullary canal of the tibia.

39. (Previously Presented) The method of claim 38 wherein the proximal portion of the sheath is positioned adjacent a thigh when the distal portion of the sheath is positioned adjacent the proximal portion of the tibia.

40. (Previously Presented) The method of claim 39 further comprising inserting a cutting tool through the sheath and utilizing the cutting tool to create an aperture to the intramedullary canal of the tibia.

41. (Previously Presented) ~~The method of claim 40~~ A method for percutaneous insertion of a tibia fixation device, the method comprising:
providing a sheath having a proximal portion, a distal portion, and an opening extending therebetween;
creating a percutaneous incision above a patella;
inserting the distal portion of the sheath through the incision to a position adjacent a proximal portion of a tibia;
inserting a cutting tool through the sheath and utilizing the cutting tool to create an aperture to the intramedullary canal of the tibia; and
inserting a fixation device through the sheath into an intramedullary canal of the tibia;
wherein the proximal portion of the sheath is positioned adjacent a thigh when the distal portion of the sheath is positioned adjacent the proximal portion of the tibia;
wherein the fixation device is a plate.

42. (Previously Presented) The method of claim 41 further comprising utilizing a guide wire to position the plate within the intramedullary canal.

43. (Previously Presented) The method of claim 42 further comprising inserting the guide wire through an opening extending along the length of the plate.

44. (Previously Presented) The method of claim 43 wherein the distal portion of the sheath includes a radiopaque marker, and wherein the positioning of the distal portion of the sheath adjacent the proximal portion of the tibia comprises monitoring the position of the radiopaque marker using an imaging device.

45. (Currently Amended) A method for percutaneous fixation of a tibia, the method comprising:
creating a suprapatellar percutaneous incision on a patient's leg;

with the patient's leg extended, inserting a sheath through the incision posterior to the patella such that a distal portion of the sheath is positioned adjacent a proximal portion of the tibia;

removing a section of the proximal portion of the tibia to create an opening to an intramedullary canal of the tibia;

inserting a fixation member through the sheath into the intramedullary canal of the tibia; and

anchoring the fixation member.

46. (Previously Presented) The method of claim 45 securing the distal portion of the sheath to the proximal portion of the tibia.

47. (Currently Amended) ~~The method of claim 46 further comprising:~~ A method for percutaneous fixation of a tibia, the method comprising:

creating a suprapatellar percutaneous incision;

inserting a sheath through the incision posterior to the patella such that a distal portion of the sheath is positioned adjacent a proximal portion of the tibia;

securing the distal portion of the sheath to the proximal portion of the tibia;

removing a section of the proximal portion of the tibia to create an opening to an intramedullary canal of the tibia;

inserting a fixation member through the sheath into the intramedullary canal of the tibia;

anchoring the fixation member;

providing an instrument for selectively engaging the fixation member, the instrument having a flange member for selectively engaging an aperture of the fixation member;

engaging the flange member with the aperture of the fixation member before inserting the fixation member into the intramedullary canal; and

releasing the flange member from the aperture of the fixation member after inserting the fixation member into the intramedullary canal.

48. (Previously Presented) The method of claim 47 wherein anchoring the fixation member comprises extending a bone engagement device through the aperture in the fixation member.

49. (Previously Presented) The method of claim 48 further comprising utilizing a guide wire to position the fixation member within the intramedullary canal

50. (Previously Presented) The method of claim 49 further comprising inserting the guide wire through an opening extending along the length of the fixation member.

51. (Previously Presented) The method of claim 50 wherein the fixation member has a width greater than a thickness.